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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
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IN THE MATTER OF THE GENERIC
INVESTIGATION INTO ELECTRIC RESOURCE
PLANNING.

DOCKET NO. E-00000E-05-0431

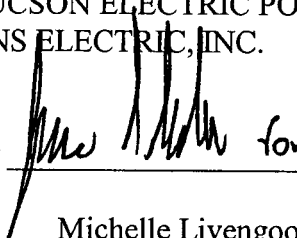
**COMMENTS OF TUCSON
ELECTRIC POWER COMPANY
AND UNS ELECTRIC, INC.**

Tucson Electric Power Company and UNS Electric, Inc., through undersigned counsel,
hereby submit their comments as requested by the Arizona Corporation Commission Staff at the
Workshop held in this docket on January 11, 2008.

RESPECTFULLY SUBMITTED this 1st day of February 2008.

TUCSON ELECTRIC POWER COMPANY
UNS ELECTRIC, INC.

By



Michelle Livengood
One South Church Avenue, Suite 200
Tucson, Arizona 85701

and

Michael W. Patten
One Arizona Center
400 East Van Buren Street, Suite 800
Phoenix, Arizona 85004

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3 Docket Control
4 Arizona Corporation Commission
5 1200 West Washington Street
6 Phoenix, Arizona 85007

7 Copy of the foregoing hand-delivered/mailed
8 this 1st day of February 2008 to:

9 Chairman Mike Gleason
10 Arizona Corporation Commission
11 1200 West Washington Street
12 Phoenix, Arizona 85007

13 Commissioner William A. Mundell
14 Arizona Corporation Commission
15 1200 West Washington Street
16 Phoenix, Arizona 85007

17 Commissioner Jeff Hatch-Miller
18 Arizona Corporation Commission
19 1200 West Washington Street
20 Phoenix, Arizona 85007

21 Commissioner Kristin K. Mayes
22 Arizona Corporation Commission
23 1200 West Washington Street
24 Phoenix, Arizona 85007

25 Commissioner Gary Pierce
26 Arizona Corporation Commission
27 1200 West Washington Street
Phoenix, Arizona 85007

Lyn Farmer, Esq.
Chief Administrative Law Judge
Hearing Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

Christopher C. Kempsey
Chief Counsel, Legal Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

1
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Ernest G. Johnson, Esq.
Director, Utilities Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

By Mary Appelt

TUCSON ELECTRIC POWER COMPANY'S AND UNS ELECTRIC, INC.'S RESPONSES TO THE COMMISSION STAFF'S QUESTIONS ON PURPA STANDARDS

The Energy Policy Act of 2005 amended PURPA by adding two standards for state commissions to consider. Those standards are concerned with (a) Fuel Diversity and (b) Fossil Fuel Generation Efficiency. Commission consideration needs to be completed by August 8, 2008. Staff is seeking input from interested parties on these topics.

Fuel Diversity

The PURPA standard on Fuel Diversity is as follows:

Each electric utility shall develop a plan to minimize dependence on 1 fuel source and to ensure that the electric energy it sells to consumers is generated using a diverse range of fuels and technologies, including renewable technologies.

A. Fuel Diversity

1. Should the Commission adopt the PURPA Fuel Diversity standard? Why or why not? If so, how?

A. *Tucson Electric Power Company ("TEP") and UNS Electric, Inc. ("UNS Electric"), sometimes collectively referred to as the "Company", support the adoption by the Commission of the PURPA Fuel Diversity standard. The Company believes it is an appropriate component of utility system planning and one of many factors that should be considered qualitatively in the development of an Integrated Resource Plan ("IRP"). The Company believes that fuel diversity should be considered in the various scenarios that are explored as part of an IRP, particularly fuel price volatility and environmental impact scenarios.*

2. What information or studies already exist on Fuel Diversity?

A. *States such as Oregon and Utah have recently incorporated fuel diversity into their Integrated Resource Planning requirements. The Utah Public Service Commission's order on the PURPA Fuel Source Standard (Docket No. 06999-03, issued on March 13, 2007), describes how fuel source diversity is addressed in the 2007 Integrated Resource Planning requirements.*

"The IRP standards and guidelines require PacifiCorp to evaluate all resource options on a consistent and comparable basis, which explicitly implies consideration of coal, natural gas, demand-side management, and renewables. In addition, all future IRPs will include a section on fuel source diversity to comply with the new fuel source standard under Title 1 Subtitle B of PURPA."

3. What are the current and foreseeable generation portfolios?
- A. *TEP's and UNS Electric's 2008 projected fuel mix by capacity and energy are shown below in Table 3a.*

Table 3a

2008 Resource Types	TEP Capacity %	TEP Energy %	UNS Electric Capacity %	UNS Electric Energy %
Coal	57%	85%		
Natural Gas	26%	7%	34%	10%
Renewable Resources	3%	1%	4%	2%
Purchased Power	15%	7%	62%	89%

In 2018, TEP projects the growth in its resource portfolio will consist of primarily natural gas and renewable resources. UNS Electric's projected resource mix will consist primarily of purchased power and renewable resources. TEP's and UNS Electric's projected fuel mix by capacity and energy in 2018 are shown below in Table 3b.

Table 3b

2018 Resource Types	TEP Capacity %	TEP Energy %	UNS Electric Capacity %	UNS Electric Energy %
Coal	45%	81%		
Natural Gas	21%	7%	23%	13%
Renewable Resources	14%	7%	16%	7%
Purchased Power	20%	5%	61%	80%

Table 3a and 3b are based on a January 2008 forecast assuming current resource portfolio and proposed REST Implementation Plans. Black Mountain Generating Station (BMGS) is assumed to be in the UNSE resource portfolio.

4. What are the potential benefits of Fuel Diversity?
 - a. Would fuel price and energy price risk be mitigated?
 - A. *Not necessarily. Fuel price and energy price risk may be somewhat mitigated by fuel diversity. However, Fuel Diversity will look different for each utility due to the different current resource portfolios of each utility. The mitigating effects of Fuel Diversity on fuel price and energy price risk will also vary by resource portfolio. Fuel Diversity may require an increase in fuels that are more volatile from a commodity price perspective.*

b. Would regulatory risk associated with individual fuels be mitigated?

A. *There is embedded risk within each utility's current resource portfolio. In some instances, Fuel Diversity may require increases in fuels that are more volatile from a commodity price perspective. Regulatory risk may result more from price volatility of the fuel mix rather than the type of fuel.*

c. Would reliability be increased?

A. *Again, not necessarily. Reliability depends on several factors. Plant availability of steam-based generation from coal, natural gas and nuclear fuels is similar. Renewable resources such as wind and solar are intermittent resources and will have less availability without storage capability.*

d. Would operational flexibility be increased?

A. *Not generally; however, to the extent that a facility is dual-fueled, there would be greater operational flexibility.*

e. Would environmental impacts be reduced?

A. *Fuel Diversity will look different for each utility due to the different current resource portfolios of each utility. Fuel Diversity may have the effect of reduced environmental impacts, but depending on the existing portfolio, increasing Fuel Diversity may increase environmental impacts.*

f. Would there be any other benefits?

A. *Broadly, Fuel Diversity is an insurance policy that moderates risk by avoiding too much reliance on any single fuel source. As with most insurance policies, there is a premium that must be paid to be insured. In the event of a catastrophic event, there is protection. However, if no catastrophe occurs, the premium is paid as insurance.*

5. What are the potential detriments of Fuel Diversity?

- A. *TEP and UNS Electric believe the benefits of considering Fuel Diversity outweigh the detriments – in other words, Fuel Diversity is an appropriate component of utility system planning and one of many factors that should be considered qualitatively in the development of an IRP. The Company believes fuel diversity should be considered in the various scenarios that are explored as part of an IRP, particularly fuel price volatility and environmental impact scenarios. TEP and UNS Electric believe it is sound policy to guard against a catastrophic event if the premium for the insurance is in balance with the probability of occurrence and the potential cost of a catastrophic event.*

6. How would the standard affect costs?

- A. *Fuel Diversity is an insurance policy that moderates risk by avoiding too much reliance on any single fuel source, consequently, there is a cost premium that must be paid to be insured. It is sound policy to guard against a catastrophic event if the premium for the insurance is in balance with the probability of occurrence and the potential cost of a catastrophic event.*

7. What other factors need to be considered?

- A. *In adopting the PURPA Fuel Diversity standard, TEP and UNS Electric believe it should be part of a broader IRP process. The Company believes the Commission should work to develop IRP standards that incorporate the PURPA fuel diversity standard based on a qualitative assessment that optimizes the potential resource portfolio given the expected combination of costs, risk and uncertainties.*

8. If adopted, to which electric utilities should the PURPA Fuel Diversity standard apply?

- A. *TEP and UNS Electric believe the standard should be part of a broader IRP process and should be applicable based on the criteria determined in that forum. In general, we believe applicability should vary by Load Serving Entity (LSE) based on a determination of whether the LSE's load or sales is significant enough such that it should be part of the broader resource planning discussion. TEP and UNS Electric envision that applicability will be modular for various requirements of the IRP rules.*

Fossil Fuel Generation Efficiency

The PURPA standard on Fossil Fuel Generation Efficiency is as follows:

Each electric utility shall develop and implement a 10-year plan to increase the efficiency of its fossil fuel generation.

B. Fossil Fuel Generation Efficiency

1. Should the Commission adopt the PURPA Fossil Fuel Generation Efficiency standard? Why or why not? If so, how?

A. *TEP and UNSE believe the PURPA Fossil Fuel Generation Efficiency standard should be part of the integrated resource planning (IRP) process. The IRP process will enable utilities to analyze the cost effectiveness of a fuel efficiency plan, taking into account environmental improvements and obligations, resource needs and other considerations to balance costs and risks while determining the appropriate implementation process and timing.*

2. Is there currently sufficient competitive pressure to induce generation owners to increase plant efficiency?

A. *Yes. Fuel expense tends to make up the largest part of a generation company's production expense. Even small improvements in operating efficiencies can result in significant cost savings for a company. As a result, there is sufficient competitive pressure to continually look at cost-effective ways to improve fuel efficiency.*

3. What are the potential benefits of adopting the standard?

a. Would utility operating costs be lowered?

A. *In the case of a turbine steam path upgrade, a generator's average operating cost could be reduced. However, these types of upgrades require significant capital investment. In other cases, making significant changes or improvements on units with low operating margins may not make economic sense. In addition, making significant changes on units could require Prevention of Significant Deterioration (PSD) permitting, which could result in major environmental costs.*

b. Would environmental impacts be reduced?

A. *This would be dependent on the type of efficiency increase. In some cases the emissions would stay the same, while in other cases an efficiency project could result in an increase of emissions of pollutants, as a result of debottle necking the unit. For example, if an efficiency change made resulted in the pollutant rate to remain the same, it could make the unit more attractive to run, resulting in the Unit Potential to Emit (PTE) to increase.*

c. Would utility environmental compliance costs be reduced?

A. *In some cases, the cost of an efficiency project would increase if a change required a revised permit. For example a change could require a New Source Review (NSR), Prevention of Significant Deterioration (PSD) or Best Available Control Technology (BACT) analysis, which could require new pollution control equipment. Furthermore, a change could also require existing pollution control equipment to operate at a higher removal rate to avoid an increase of the sources PTE.*

4. What are the potential detriments of adopting the standard?

a. How would the standard affect costs?

A. *Adopting a rigid fuel efficiency standard could be detrimental given the diverse range of issues. For example, when considering the addition of new resources, the type of technology may be impacted with requirements for improved efficiency. In the case of constructing a dry-cooled versus a wet-cooled generation plant, efficiency considerations would likely lead to the selection of wet cooled technology, but less water usage may be a valid consideration. Similarly, in the case of carbon sequestration, the efficiency of a coal plant would be decreased with the addition of sequestration technology. However, the reduction of greenhouse gas (GHG) emissions may take priority.*

b. Would there be additional plant and equipment expenditures?

A. *Yes. In general, fuel efficiency improvements tend to require capital upgrades on plant equipment, pollution controls and unit control systems.*

c. Would there be additional training for plant operators?

A. *Yes. In general, all plant and system control changes normally require training of operations and maintenance personnel.*

d. Would there be operating costs from plant improvements?

A. *It depends on the modification. In general, fuel efficiency modifications are done to reduce operating costs; however, significant capital investments are needed up front to make the plant improvements.*

e. Would there be additional environmental requirements?

A. *Again, it would depend on the modification. Some plant modifications could require amendments to Title V permits and changes in how pollution control equipment is operated. This, in turn, could require new pollution control equipment and increase waste disposal requirements.*

5. Would the standard impact reliability?

A. *It depends on the modification. Often when fuel efficiency modifications are made to a facility, the new replacement equipment can reduce the overall forced outage rate on a plant. However, newer technologies that promise to improve fuel efficiency can sometimes have unintended consequences by making plant systems more complex to operate and maintain.*

6. If adopted, to which electric utilities should the PURPA Fossil Fuel Generation Efficiency standard apply?

A. *TEP and UNS Electric envision that applicability would depend on the Load Serving Entity's (LSE) portfolio of physical assets. LSE's that have a large portfolio of physical assets varied by fuel and technology type would be required to develop a more diverse fuel efficiency plan versus a small LSE with limited physical assets of a single fuel and technology type.*

7. If adopted, should the timeframe be modified?

A. *The proposed 10-year planning time frame seems reasonable. This would allow adequate time for peer review and input from other stakeholders to insure that all issues are taken into consideration.*

8. If adopted, how should the plans be developed?

A. *TEP and UNS Electric believe the standard should be part of the IRP process. Other states within the Western Electricity Coordinating Council (WECC) have taken a similar approach. As referenced in Docket No. UM 1331, the Oregon Public Utility Commission Staff recommended the following standard for fossil fuel generation efficiency be adopted: "Each electric utility must consider in its integrated resource plans options to increase fossil fuel generation efficiency and include in the action plan, implementation of options that meet the Commission's best cost/risk standard. The utility should also discuss how technological changes or expected state and federal regulations might impact fossil fuel efficiency plans"*

9. If adopted, what should the plans contain?

A. *TEP and UNS Electric believe the fuel efficiency plan should be similar to what other states have adopted within their IRP requirements. The IRP should have a separate section that includes an analysis on the cost effectiveness of a fuel efficiency plan. The plan should also take into account environmental improvements and obligations, resource needs and factor in potential risks while determining the appropriate implementation process and timing.*

In addition, the overall emphasis should be on having a fuel efficiency plan in place and efforts should be made to make continuous improvement over a ten-year period. The emphasis should not be on an exact execution of a plan on a year-to-year basis, because flexibility is needed to respond to changing market and system conditions.